



# **Green Packaging and Environmental Safety in Ghana's Hospitality Industry: A Systematic Review**

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## **Author's contribution**

*The sole author designed, analysed, interpreted and prepared the manuscript.*

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## **ABSTRACT**

This study seeks to review on green packaging practices on environmental safety in Ghana's hospitality industry. The reviewed studies adopted a cross-sectional study design. A systematic review was carried out with the aid of online research journal websites as well as other in-context articles. While conducting this study, the key words in the search query were directed towards the impact of green practices on environmental safety in Ghana. Areas noted in relation to this study was use of green practices in hotels. Therefore, there was linkage of papers pointing out the impact of green practices on environmental safety. The results revealed that, hotels fared well in environmental health but badly in eco-labeling and certification. At 34%, hotels supported sustainability. Results affect MDGs, volunteering, and environment. Hierarchical multiple regression demonstrated that hotel size, class, national hotel trade association engagement, and manager remuneration increased environmental performance. No performance improvement from global chain link. Many Ghanaian hotels provide green enhancements. Most municipal hotels affect the environment. Sustainability demands hotel personnel green management training. Based on

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observations and interviews, they promote resilience in solid and liquid waste management, renewable energy development, green designs, energy efficiency, water conservation, and green environmental regulatory compliance.

**Conclusion:** The research shows that hotels are important to their communities' economies, but if we neglect their environmental impact, they may damage the ecosystem. There is a need for hotels that invest money into environmental audits or certification programs like eco-labels to get monetary recompense for their environmental efforts.

*Keywords: Green; packaging; practices; Ghana; environment; hotels.*

## 1. INTRODUCTION

The tourist industry is vital to the world's economy and society, it generates 10.4% of gross domestic product (GDP), 7% of exports, and 10% of jobs [1]. In 2018, Lenzen et al. found that only 8% of global greenhouse gas emissions come from the tourism sector [2]. Hotels have a detrimental effect on the environment due to their daily resource use [3,4]. As per Martínez Garcia de Leaniz et al. study, it is shown by the increasing tendency of hotels to integrate eco-friendly procedures into their everyday operations [5]. Sustainability is essential since tourists are concerned about the environment and want to do their part by choosing eco-friendly options [6].

The American Marketing Association uses the term "green marketing" to describe product promotions that aim to minimize negative impacts on the environment. "Green marketing" encompasses a wide range of practices and has just lately gained prominence in the advertising industry [7]. Some examples of this include exploring other kinds of advertising, enhancing manufacturing methods, and reevaluating items and their packaging. Green Marketing refers to the sustainable development, or meeting current demands without destroying other things. Sustainable development is based on the idea that new policies are required to improve ecological preservation by incorporating financial and ecological factors into decision-making processes. Environmentally sensitive marketing benefits decision-making for generations past and future. Green marketing tactics that try to reduce pollution, enhance product packaging, and simplify energy development procedures may help with sustainable development (Baumann et al., 2018).

In 2021, Chen et al. found that hotels that prioritize environmental sustainability had a greater return on investment compared to those

who did not [8]. According to Al-Aomar and Hussain in 2017 and Cingoski and Petrevska in 2018, hoteliers are starting to see green supply chain management as a way to get an edge over their competitors [9,10] According to research [11] green supply chain management solutions improve operational, financial, and environmental outcomes. The public views hotels that prioritize environmental sustainability in a more favorable light, which boosts their consumer value [12]. Increases in cost awareness, customer happiness, and loyalty are seen [13]. Sustainability, also known as green supply chain management, may be especially profitable for hotels in areas with limited resources since it increases the likelihood of a steady supply [14].

The tourist industry helps achieve all 17 of the UN's sustainable development goals, but especially targets 8, 12, and 14. According to the UN World Tourism Organization in 2021, a clear strategy for promoting sustainable tourism is essential, since it is one of the development goals set by the UN for the period after 2015 [15]. Researchers in the fields of tourism and hospitality should keep a careful eye on how big hotel chains are doing in their efforts to achieve the SDGs, even if some of these chains are doing a great job already [16].

With climate change having both immediate and long-term consequences, the question of how farming methods affect environmental sustainability is crucial. The global community has to restructure and step up its sustainable development efforts if it wants to stay true to ecological sustainability ideals [17]. Ayivor and Gordon [18] and Appiah et al. [19] research concludes that land use change poses a significant risk to ecological sustainability [18,19] By acting in accordance with sustainable development principles, we can all help ensure that the planet remains habitable for future generations yet very little work has been examined on the impact of green practices on environmental safety in Ghana.

## 2. METHODS

The reviewed studies adopted a cross-sectional study design. A systematic review was carried out with the aid of online research journal websites as well as other in-context articles. While conducting this study, the key words in the search query were directed towards the impact of green practices on environmental safety in Ghana. Areas noted in relation to this study was use of green practices in hotels. Therefore, there was linkage of papers pointing out the impact of green practices on environmental safety. In addition, the researcher emphasize that action research is extremely valuable in gaining insights about managerial sense-making, sense-giving and the impact on decision-making in the midst of change interventions. The researcher collected data using Interviews and questionnaire techniques. The research methodology is appropriate and makes absolute sense because there were evident on the impact of green practices on environmental safety in Ghana.

## 3. RESULTS

According to the findings of Mensah's investigation, 34 percent of hotels in Accra had implemented environmental management systems. This indicates that the great majority of these businesses had implemented no environmental management systems at all. Nevertheless, the majority of the environmental actions that they claimed to have begun were associated with sanitation and waste collection, accounting for 59% of the initiatives. According to Mensah in 2013, [20] environmental management plans did not adequately address the carbon footprints of hotels or the health of the areas that their establishments were located in [20].

According to Tamunomiebi et al., one of the variables that might be contributing to hotel waste is their rubbish and its the most obviously destructive to the environment [21]. Studies shows that, majority of hotels placed a high priority on cleanliness and regard for the natural environment. As a result of the availability of garbage cans in each of the guestrooms, the management's commitment to maintaining a clean environment and collecting waste was readily apparent. In spite of the fact that there is a broad interest in water and energy saving as well as pollution control activities in industrialized nations, the great majority of hotel managers in

Ghana exhibit very little enthusiasm for such projects.

According to Mensah and Blankson, who used multiple regression analysis, hotels in the Sunyani municipality of Ghana enacted regulations that were environmentally friendly. The first model, which included control variables, including the socio-demographic characteristics of hotel managers, showed that independent factors were responsible for 10% of the variation in environmental performance ( $R^2 = 0.10$ ;  $F = 2.15$ ;  $p < 0.05$ ). However, the second model, which included hotel age and occupancy rate as independent variables, did not provide any conclusions that were of any utility. Neither the age of the hotel nor the occupancy rate were found to have any correlation with the environmental performance variation ( $R^2 = 0.00$ ;  $F = 1.66$ ).

In the third model, the independent factors that were responsible for 7% of the variation in environmental performance were multinational affiliation, type of ownership, and GHA engagement. The coefficient of determination ( $R^2$ ) was 0.07, the F-value was 2.23, and the p-value was less than 0.05. Model 4, which explained 11% of the variation in environmental performance, included three independent variables: the class of the hotel, the number of guestrooms, and the number of staff members. The coefficient of determination ( $R^2$ ) was 0.11, the F-value was 3.36, and the p-value was less than 0.01. In the event that all of the independent factors were taken into consideration, they were responsible for 29% of the variation in environmental performance. Despite the fact that the independent variables may not be able to explain for all of the variation in environmental performance ( $R^2 = 0.29$ ), the findings indicate that certain organizational characteristics of hotels are strong predictors of environmental performance.

According to the findings, there was a positive link between environmental performance and income, which was the sole socio-demographic variable that was included in models 1 through 3. Based on the significance criterion of  $p < 0.05$ , it was determined that this link was legitimate ( $\beta = 0.27, 0.28$ ). Because of this, the compensation levels of managers had an effect on the performance of the environment. When class and hotel size were added as independent factors, the influence of wealth on environmental performance was dramatically decreased across

the board ( $\beta = 0.09$ ;  $p > 0.05$ ). This was the case regardless of the kind of facility. It is possible that managers who earn higher wages are in charge of more expensive hotels. This might be the reason why these hotels have superior environmental performance, as well as the reason why there is a positive correlation between hotel manager pay and environmental performance [20].

Hotels in the Sunyani Municipality have reportedly begun to implement environmentally friendly policies and procedures. The research that was carried out by Nuong and colleagues in 2022 revealed that out of the hotels that were included in the study, only 22 percent of them had an environmental management policy in place, while 78 percent of them stated that they did not have any policy at all [22]. The issue that has to be answered is whether or not the more strict standards that hotels with higher star ratings apply really help these enterprises. It is clear that the findings of the study conducted by Mbasera, Plessis, Saayman, and Kruger in 2016 are in accord with this statement, since they also highlighted the need of a policy to drive the implementation of environmentally friendly initiatives [23]. According to Hsieh, the adoption of a green management plan by senior management demonstrates the organization's dedication to the preservation of the environment inside the organization [24].

Identifying the elements that influence environmentally aware company operations in the Sunyani Municipality was one of the secondary goals that was pursued. It was the demand from customers that was the primary driver of eco-consciousness in the hotel business, accounting for 65.8% of the total. Studies conducted by Kumar and Gupta have shown that when consumers express a desire for environmentally friendly actions, such practices become much more prevalent [25]. In order to provide evidence in support of this argument, Serlen in 2008 said that consumers who are environmentally aware have a more robust sense of personal responsibility, and that the environmental attitudes of consumers are highly connected with their willingness to pay a higher price for products that are beneficial to the environment [26]. Government policy and regulation was the second most influential effect on the environment in the Sunyani municipality, accounting for 45.6% of the total. Citizen participation was the most significant element, accounting for the remaining 1%. According to

the findings of study [27] law has a significant influence on whether or not firms participate in environmentally friendly activities.

Having a positive attitude toward change was the third component, which accounted for 35 percent of the total. Innovative firms have mastered the art of innovation, which enables them to be more productive and adaptable in the face of changing market circumstances. Successful businesses have mastered the art of innovation. A relationship between an organization's willingness to adapt to change and its support for environmental management methods was identified by Le et al. in 2006 as one of the most significant correlations they discovered [28]. According to Hurley and Hult, market performance strategies have to prioritize adaptability above learning as the primary market response approach [29]. The idea of planned behavior must be taken into consideration in this kind of environment. It is generally accepted that intentions serve as a substitute for the reasons that motivate behavior; also, intentions measure the extent to which individuals are willing to put out effort in order to carry out the acts that they desire to do.

Finally, the amount of competition was the element that was the least relevant, with a value of 21.6% when it was considered. As a response to the growing competition, businesses are implementing preventative steps such as doing research, participating in hazardous learning, and engaging in controlled risk-taking in order to avoid engaging in price or promotion wars. Empirical study demonstrates that competition enhances the chance of innovation adoption [30]. This is the case when environmental variables are taken into consideration. The level of environmental uncertainty is increased by competition, which in turn leads to a rise in the demand for innovation and the pace at which it is adopted. Managers who anticipate a greater level of competition are more likely to engage in greening practices in order to enhance their market share in comparison to managers who do not engage in such practices [30].

Boateng's research on the construction of environmentally friendly hotels found that the most successful hotels adhered to a set of guidelines. These included laws for fire safety measures (premise) requirements (LI 1724), as well as criteria for environmental evaluations (LI 1652), enterprises that provide accommodation and catering (LI 1205), and other requirements.

**Table 1. Review of literature**

<b>Author/s</b>	<b>Title</b>	<b>Country</b>	<b>Method</b>	<b>Results</b>
Mensah I, 2013	How Green Are Hotels In Accra? Environmental Management Practices And Initiatives In Tourist Accommodation.	Ghana	This study therefore determines how hotels in a developing sub-saran African city like Accra are responding to the calls for sustainable practices by looking at their environmental management initiatives and environmental management performance. The managers of 200 hotels which were selected through the stratified random sampling method were surveyed using a structured questionnaire. The questionnaire elicited information on the environmental management performance of the hotels in ten key areas.	The results of the study indicated that though the hotels performed creditably in the area of environmental health, their performance in the area of voluntary environmental management activities such as eco-labelling and certification was not encouraging. Also, only 34% of the hotels had voluntarily instituted initiatives in improved environmental performance. The results have implications for environmental policy formulation, voluntary environmental initiatives and the realization of the millennium development goals.
Mensah I, Blankson E.J. 2013	Determinants of hotels' environmental performance: Evidence from the hotel industry in Accra, Ghana.	Ghana	It also examined the socio-demographic characteristics of managers and organizational characteristics that determine the environmental performance of Ghanaian hotels. A stratified random sampling method was employed to survey 200 hotel managers from different categories of hotels in Accra.	A hierarchical multiple regression analysis indicated that larger size and better class of hotels, as well as those with membership of the national hotel trade association, had better environmental performance as did hotels with better paid managers. Affiliation to foreign multinational chains did not predict better performance. A series of suggestions are made to improve the environmental performance of Ghana's hotels.
Nuong D. M., Ari Ragavan N., Zaazie P., Niber A. & Anandene D. 2022	Green Practices Among Hotels in the Sunyani Municipality of Ghana.	Ghana	This study sought to ascertain the degree to which hotels in the Sunyani Municipality had adopted sustainable initiatives. Data from forty (40) hotel managers in the Sunyani Municipality were gathered quantitatively using a simple random sampling and stratified procedure.	According to the study's findings, most hotels in the municipality contribute less to reducing the harmful effects on the environment. The implications are that there is the need for green management training which would help strengthen hotel employees' sustainability practices.
Boateng A.K. 2019	Green hotel development: Towards the building of resilient cities in Ghana	Ghana	Using the purposive sampling technique, the highest star-rated hotels in a city named Koforidua in Ghana were selected as case studies. Top management of these hotels, together with officials from the relevant Government Actors were interviewed.	The results of the study indicated that these hotels in the city were environmentally cautious as far as promoting resilient and vital cities is concerned. The observations and interviews showed that they were in the business of building resilience in areas such as effective solid and liquid waste management methods, renewable energy development, green designs, energy efficiency and water conservation, green environmental regulation compliance.

*Summary table of review articles*

An further confirmation of conformity with EPA Act 490 was provided by the study that was conducted in 1994. It was made possible by the permissions that the relevant hotels had obtained from the appropriate government agencies and put at the front desk. We are grateful for this.

Additional interviews were carried out with officials from the Ghana Tourism Authority (GTA) and the Environmental Protection Agency (EPA), who are two of the most influential regulatory bodies in the hotel business. This was done in order to provide evidence in support of the prior statements. The purpose of this was to make certain that the hotels had followed the criteria that had been stated before by management.

When the hotels demonstrated that they had complied with all environmental requirements, the government awarded them environmental licenses and came to the conclusion that they had provided Environmental Impact Assessments. Within the time frame that they were given notice, an officer from the team brought up Environmental Protection Agency Act 490 (1994), which states that any individual or organization that is responsible for a project that the agency believes will have a negative impact on the environment is required to provide an Environmental Impact Assessment (EIA) that has all of the information that they need. The Environmental Impact Assessment (EIA) must be prepared and submitted by all developers, including hotels, in order to be evaluated and approved by the Agency.

According to the Environmental Protection Act of 1994 (Act 490) and the General Technical Authority's Accommodation and Catering Enterprises Regulation of 1979 (LI 1205), hotel management and operators are obligated to ensure that their establishments comply with worldwide hospitality safety standards. According to the officials who are in charge of the industry's policymaking and coordination, this is the primary role that the Authority is responsible for. The individuals who participated in the poll said that this government agency not only investigates and studies the trends in the sector, but it also registers, classifies, and licenses catering and accommodation businesses, and it monitors the standards that they adhere to. According to the testimony of one of the study respondents, the hotels that get the highest ratings are the ones

that routinely renew their operating licenses and adhere to the tight requirements that are outlined in their permits [31].

#### **4. DISCUSSION**

According to Mensah's research [20] hotels in Accra were not an environmentally friendly option. According to the findings of this investigation, the bulk of the responsibilities for garbage management in Accra are assigned to hotels. There has been a lack of serious consideration given by the administration of the hotel to environmental management techniques that are aimed at reducing the consequences of climate change. Rather of focusing on recycling or prevention, waste management initiatives have mostly concentrated on collecting garbage as their major objective. The study found that Ghana's hotel industry seldom voluntarily implemented any of these rules, despite the fact that green policies are becoming more popular as alternatives to standard environmental management measures. There was a clear indication that around one-third of the hotels were making an effort to comply with the standards that were established by the AMA, the EPA, and the GTB. On the other hand, almost two-thirds of the hotels had not launched any type of environmental program. Additionally, hotels seldom carried out environmental audits, certifications, or eco-labeling in their operations.

In accordance with the seventh Millennium Development Goal (MDG) stated by the United Nations, waste management and sanitation systems that are efficient are very important to the achievement of sustainable development. The expansion of ecotourism is a cause for optimism; yet, hotels will have a tough time accomplishing this goal owing to the ineffectiveness of their business strategies, especially with regard to the use of natural resources. The management of the Accra hotel seemed to be more concerned about the little issues of cleaning and waste than they are about the environmental disaster as a whole.

During the year 2013, Mensah and Blankson conducted research on the sustainability of hotels in the municipality of Sunyani in Ghana. According to the findings of the research, there is a noteworthy relationship between the compensation of hotel managers and the environmental performance of their respective

businesses. According to Mensah and Blankson in 2013, hotel managers working at more luxury facilities may have had better environmental performance as a result of their higher wages [20]. In spite of the fact that gender and wealth were not shown to be connected with one another, Rivera and de Leon in 2005 did find a connection between the educational level of CEOs and environmental performance in the Costa Rican hotel industry. Consequently, with the exception of money, there was not a single socio-demographic element that had a significant impact on the environmental performance of hotel management [32].

It is possible to say that the hotels in Accra that have three or four stars are the ones that are the most ecologically conscientious. This should not come as a surprise considering that hotels that are more financially stable and larger in size often have the administrative structures, infrastructure, and resources that are required to encourage environmentally responsible activities. When it comes to the management of the environment, the majority of budget and guesthouses in Ghana are badly inadequate. When it comes to enforcing environmental standards, the Environmental Protection Agency (EPA) and the Gulf of Mexico Board (GTB) have often neglected smaller hotels. Exemptions from the need to do environmental impact assessments are granted to hotel chains that have forty rooms or less. A malfunction occurred in February 1998 at the sewage treatment plant of the Golden Tulip Hotel, which resulted in the facility overflowing into an open sewer. The media provided a substantial amount of publicity to this occurrence. Due to the fact that international hotel chains place a high value on a hotel's image, the institution invested millions of dollars in order to rectify the issue.

Studies that were carried out by Nuong and colleagues [22] indicate that environmentally responsible hotel development is in the process of gaining popularity. Consumer demand, the level of competition, and the rules and regulations of the government all have an impact on the rate at which environmentally friendly practices are adopted. One of the outcomes will be an increase in the amount of support for environmentally friendly practices, as well as an increase in the amount of praise and recognition given to eco-friendly hotel mentors who encourage the next generation of hotel management. If the government and other organizations were to take more steps to

encourage competition, it is possible that smaller hotels might reap significant benefits. Hotels will have economic benefits as a result of a combination of decreased manufacturing costs and an increase in demand for sustainable and environmentally friendly products and services, particularly from consumers who are concerned about the environment. In accordance with the emphasis placed on the behavioral paradigm in the research that has been conducted, an environmental education program has a higher success rate in bringing about changes in behavior. There were even fewer managers who were actively involved in environmental programs, let alone had even a passing knowledge with them. Only a small number of businesses really put environmental management systems into place. Seminars and workshops should be offered by non-governmental organizations (NGOs) in order to increase the number of people who participate in voluntary activities to protect the environment.

As of the time this article was written, not a single hotel that was included in the research had adopted any environmentally friendly policies or processes. On the other side, when it comes to being environmentally responsible, there are not many hotels that are making an attempt. A growing number of hotel management companies are adopting environmentally responsible management techniques in order to reduce the negative effects that their activities have on the surrounding environment. With that being said, it is possible that this is not always the case. There seems to be a dearth of understanding and training among hotel management about issues related to sustainability. Furthermore, it seems that their perspectives on what is regarded appropriate for the state of the ecosystem are not in agreement with one another. There is a possibility that the value of hotel personnel might be increased by providing them with training in highly sought-after skills and competences. This training has the potential to boost both their professional and personal satisfaction. The personnel of the hotel are considered to have increased the reliability and effectiveness of the hotel's services after obtaining sufficient training throughout their employment. Even though there is a dearth of understanding on environmentally friendly methods in Sunyani's hotel business, urgent action is required due to the large variety of negative affects on the environment [33]. This is because of the fact that there is a lack of awareness about these activities.

As a result of Boateng's investigation on environmentally responsible hotel building [31]. Based on the findings, the management team at the hotel exhibited a high level of familiarity with the environmental, health, and safety rules that were implemented by the organization. Furthermore, a number of employees expressed their acceptance of a policy statement that outlined the objectives for preserving a clean and healthy working environment among the workforce. Throughout the whole of the strategy statement, the need of taking appropriate measures to manage waste and complying with environmental regulations is underlined. Taking this method is consistent with what is known regarding the absence of environmental rules in Ghanaian hotels located in the Greater Accra Region, as stated by Mensah [34,35]. There was a strong focus placed on the health and safety of the guests at those hotels that did have rules in place. Previous study that is comparable to this one has shown that hotels have reported a policy statement on environmental management [36,37]. It is not appropriate for hotel management to depend on government organizations to enforce environmentally friendly operations; rather, industry and self-regulation should be encouraged [38-40]. Given that the Environmental Protection Agency (EPA) is tasked with the responsibility of safeguarding and enhancing the environment of the nation, the primary statutory obligation of the agency should be to implement and integrate environmental policies and plans in a manner that is in accordance with the nation's objective of preserving environmental quality in an effective and long-lasting manner.

## 5. CONCLUSION

As the study demonstrates, hotels play a significant role in the economy of their respective communities; but, if we fail to manage the environmental effect of these establishments, they may end up doing more harm than good to the environment. It is imperative that hotels immediately begin taking measures to lessen the effect that they have on the environment in light of this. In light of the controversial nature of voluntary environmental management, Ghana's environmental policy need to place a higher priority on supporting self-regulation by businesses rather than depending on government regulation. There is a need for hotels that invest money into environmental audits or certification programs like eco-labels to get monetary recompense for their environmental efforts.

## DISCLAIMER (ARTIFICIAL INTELLIGENCE)

Author hereby declares that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc) and text-to-image generators have been used during writing or editing of manuscripts.

## COMPETING INTERESTS

Author has declared that no competing interests exist.

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